Quick Reference for
Healthcare Providers

Management of Autism Spectrum Disorder in Children and Adolescents

Ministry of Health Malaysia

Malaysian Psychiatric Association

Malaysian Child and Adolescent Psychiatry Association

Academy of Medicine Malaysia

KEY MESSAGES

1. Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterised by impairments in communication, behaviour and social functioning which begin in childhood.
2. Early diagnosis and prompt intervention of children with ASD is crucial for the best outcome.
3. Modified Checklist for Autism in Toddlers (M-CHAT) may be used as a screening tool for ASD among children of 18 months and repeat at 24 months if the child passes the earlier M-CHAT.
   - It may be used to screen children up until the age of 30 months if the child misses the earlier screening.
   - Regardless of the screening result, children suspected of ASD at any age by the family or other care providers should be referred for evaluation.
4. Diagnosis of ASD should be made clinically, based on comprehensive history and observation.
5. Audiological assessment should be performed in children with or suspected of ASD.
6. Children with ASD should be managed by a multidisciplinary team.
7. Parents or carers should actively participate in any intervention offered to children with ASD.
8. Children with ASD should receive:
   - Applied behaviour analysis
   - Speech, language and communication interventions
   - Occupational therapy
9. Parental training should be offered to parents of children with ASD.
10. Traditional and Complementary Medicine could not be recommended to children with ASD because of insufficient evidence and potential harmful effects.

This Quick Reference provides key messages and a summary of the main recommendations in the Clinical Practice Guidelines (CPG) on the Management of Autism Spectrum Disorder in Children and Adolescents.

Details of the evidence supporting these recommendations can be found in the above CPG, available on the following websites:

- Ministry of Health Malaysia: www.moh.gov.my
- Academy of Medicine Malaysia: www.acadmed.org.my
- Malaysian Psychiatric Association: www.psychiatry-malaysia.org

Clinical Practice Guidelines Secretariat
Malaysian Health Technology Assessment Section (MaHTAS)
Medical Development Division
Ministry of Health Malaysia
Level 4, Block E1, Precinct 1, 62590, Putrajaya
Tel: 603-8883 1246, E-mail: htamalaysia@moh.gov.my

Risk Factors

Screening for ASD should be emphasised in children with the following high risk factors:-

- Increased parental age
- Maternal age >40 years old
- Paternal age >50 years old
- First born of mother aged >35 years old and father aged >40 years old

Main Features of ASD

A. Persistent deficits in social communication and social interaction across multiple contexts.

B. Restricted, repetitive patterns of behaviour, interests, or activities.

C. Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life).

D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

E. These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay.

Comorbidities

- Children with ASD can experience a wide range of difficulties with emotional, attentional, activity, thought, behavioural and medical problems.
- Diagnosis of comorbid disorders is of major importance as it may cause significant clinical impairment in children with ASD.
- The comorbidities are:

    a) Intellectual disabilities

    b) Attention deficit hyperactivity disorder (ADHD)

    c) Sleep disorders

    d) Epilepsy

    e) Gastrointestinal problems such as feeding problems and constipation

    f) Motor incoordination such as poor handwriting

    g) Other psychiatric disorderssuch as anxiety and depressive disorder

Audiological Evaluation

- Audiological evaluation is an important component of initial assessment to rule out hearing impairment.
- The electrophysiological test is preferably used to evaluate hearing impairment in children with ASD as compared to behavioural test.

Treatment

i. Applied Behaviour Analysis (ABA)

Lovaas therapy and early intensive behavioural intervention variants improve among others, social communication skills, language and daily living skills, cognitive performance, language skills and adaptive behavioural skill.

ii. Speech, Language and Communication Interventions

Interventions	Types	Benefits
Naturalistic approach	Responsive Education and Prelinguistic Milieu Teaching (RPMT)	Improves social communication & language learning
	Reciprocal Imitation Training (RIT)	Improves elicited & spontaneous imitation of objects & gestures (<5 years old) with a greater play repertoire
Augmentative and Alternative Communication (AAC)	Picture Exchange Communication System (PECS)	Improves communication skills & requesting skills
	Speech Generating Device (SGD)	SGD with enhanced milieu teaching & signing improves requesting skills
Video modelling	Video self-modelling	Improves social communication skills, functional skills & behavioural functioning
	Video modelling with other as model	Improves play skills, independent living & social-communicative skills

iii. Occupational Therapy

Interventions	Benefits
Sensory integration therapy	Improves in sensory processing, motor skills, social functioning & autistic mannerisms but further study required to support current findings
Social skills and self-help skills	Improves overall social competence & friendship quality
Joint attention	Improves joint attention & joint engagement
Perceptual motor training	Increases attention span

iv. Other Interventions

Interventions	Benefits
Social Stories	Improves social skills & reduces inappropriate behaviours
Developmental, Individual-difference, Relationship-based (DIR) Floortime™	Improves developmental skills & reduces autistic symptoms
Music therapy	Improves joint attention skills & longer eye contact
Parent education and support	Improves parent-child interaction, parent synchrony, child's language comprehension & functional verbal utterances

v. Pharmacotherapy

- Children with ASD may be offered:
  - atypical antipsychotics as a short-term treatment for irritability
  - methylphenidate and atomoxetine for hyperactivity
  - melatonin for sleep difficulties

Social Welfare Service

Children with ASD should be referred to the Department of Social Welfare at their respective local districts. This will enable the child to be registered for social welfare benefits.

Transition from Adolescent to Adult Services

- Transition for adolescents with ASD should be discussed and planned early by all who are involved in their management.

- Care for children and adolescents with ASD should be continued to adult health services. There is a need for establishment of this service to support adolescents when they enter adulthood.

Modified Checklist for Autism in Toddlers (M-CHAT)

Answer ALL questions. Circle the appropriate answer.
Jawab SEMUA soalan. Bulatkan jawapan yang sesuai.

1	Adakah anak anda seronok apabila ditimang, dibuai atau dihenjut atas kaki / paha dan sebagainya? *Does your child enjoy being swung, bounced on your knee, etc?*	Ya / Yes	Tidak / No
2	**Adakah anak anda menunjukkan minat terhadap kanak-kanak lain? (contohnya bergaul, bermain, berkawan)** ***Does your child take an interest in other children?***	**Ya / Yes**	**Tidak / No**
3	Adakah anak anda suka memanjat, contohnya tangga, kerusi, meja dan lain-lain? *Does your child like climbing on things, such as up stairs?*	Ya / Yes	Tidak / No
4	Adakah anak anda seronok bermain "cak-cak" atau main sorok-sorok? *Does your child enjoy playing peek-a-boo or hide and seek?*	Ya / Yes	Tidak / No
5	Adakah anak anda pernah bermain-main olok-olok / berlakon, contohnya menelefon, bermain anak patung atau bermain masak-masak dan sebagainya? *Does your child ever pretend for example to talk on the phone or take care of dolls or pretend other things?*	Ya / Yes	Tidak / No
6	Adakah anak anda pernah menunjuk menggunakan jari telunjuk untuk meminta sesuatu? *Does your child ever use his / her index finger to point, to ask for something?*	Ya / Yes	Tidak / No
7	**Adakah anak anda pernah menunjuk / menggunakan jari telunjuk terhadap sesuatu yang menarik minatnya?** ***Does your child ever use his / her index finger to point, to indicate interest in something?***	**Ya / Yes**	**Tidak / No**
8	Bolehkah anak anda bermain dengan alat permainan yang kecil dengan betul, selain dari memasukkannya ke dalam mulut, membelek-belek atau menjatuhkan permainan itu? (contohnya kiub, kereta kecil, dan lain-lain) *Can your child play properly with small toys without just mouthing, fiddling or dropping them?*	Ya / Yes	Tidak / No
9	**Pernahkah anak anda membawa objek / benda dan menunjukannya kepada anda?** ***Does your child ever bring objects over to you (parent) to show you something?***	**Ya / Yes**	**Tidak / No**
10	Adakah anak anda bertentang mata dengan anda lebih daripada dua saat? *Does your child look you in the eye for more than a second or two?*	Ya / Yes	Tidak / No
11	Pernahkah anak anda kelihatan seperti tersangat sensitif / terganggu terhadap bunyi bising (contohnya: menutup telinga)? *Does your child ever seem oversensitive to noise? (e.g. plugging ears)*	Ya / Yes	Tidak / No
12	Adakah anak anda senyum bila melihat anda atau membalas senyuman anda? *Does your child smile in response to your face or your smile?*	Ya / Yes	Tidak / No
13	**Adakah anak anda meniru perlakuan anda (contohnya meniru mimik muka anda dan sebagainya)?** ***Does your child imitate you? (e.g. if you make a face will your child imitate it?)***	**Ya / Yes**	**Tidak / No**

14	**Adakah anak anda bertindak balas apabila namanya dipanggil?** ***Does your child respond to his / her name when you call?***	**Ya / Yes**	**Tidak / No**
15	**Sekiranya anda menunjuk pada alat permainan yang jauh dari anda, adakah anak anda akan melihat kepada alat permainan tersebut?** ***If you point at a toy across the room, does your child look at it?***	**Ya / Yes**	**Tidak / No**
16	Bolehkah anak anda berjalan? *Does your child walk?*	Ya / Yes	Tidak / No
17	Adakah anak anda akan melihat pada benda yang sedang anda lihat? *Does your child look at things you are looking at?*	Ya / Yes	Tidak / No
18	Adakah anak anda membuat pergerakan jari yang ganjil / pelik dekat mukanya? *Does your child make unusual finger movements near his / her face?*	Ya / Yes	Tidak / No
19	Adakah anak anda cuba menarik perhatian anda terhadap aktiviti yang dilakukannya? *Does your child try to attract your attention to his / her own activity?*	Ya / Yes	Tidak / No
20	Pernahkah anda terfikir bahawa anak anda ada masalah pendengaran? *Have you ever wondered if your child is deaf?*	Ya / Yes	Tidak / No
21	Adakah anak anda dapat memahami percakapan orang? *Does your child understand what people say?*	Ya / Yes	Tidak / No
22	Adakah anak anda kadang-kala kelihatan temenung atau merayau / berjalan tanpa tujuan? *Does your child sometimes stare at nothing or wander with no purpose?*	Ya / Yes	Tidak / No
23	Adakah anak anda memandang ke muka anda untuk melihat reaksi / tindakabalas anda apabila ia menghadapi sesuatu yang baru atau luar biasa? *Does your child look at your face to check your reaction when faced with something unfamiliar?*	Ya / Yes	Tidak / No

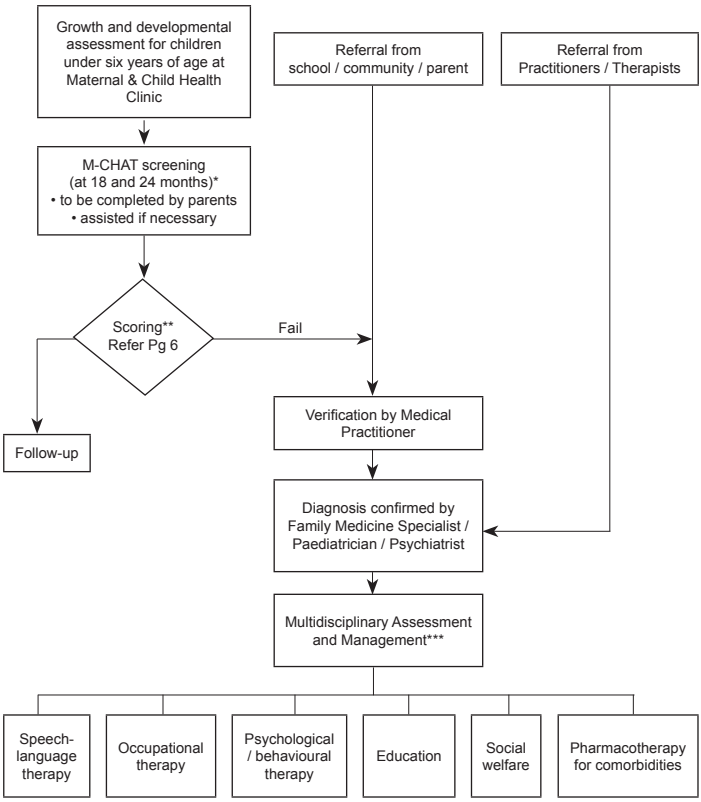
1. No / Tidak	6. No / Tidak	11. Yes / Ya	16. No / Tidak	21. No / Tidak
2. No / Tidak	**7. No / Tidak**	12. No / Tidak	17. No / Tidak	22. Yes / Ya
3. No / Tidak	8. No / Tidak	**13. No / Tidak**	18. Yes / Ya	23. No / Tidak
4. No / Tidak	**9. No / Tidak**	**14. No / Tidak**	19. No / Tidak	
5. No / Tidak	10. No / Tidak	**15. No / Tidak**	20. Yes / Ya	

Scoring:

- The bold items are critical; i.e. **2, 7, 9, 13, 14, 15**
- A chid requires referral (i.e. fail M-CHAT) for further evaluation if he / she fulfills the following:
  - 2 or more of critical items
  - 3 or more of any items

Not all children who fail the checklist will meet criteria for a diagnosis on the autism spectrum disorder. However, children who fail the checklist should be evaluated in more depth by the relevant specialist.

Algorithm on Management of Children with Autism Spectrum Disorder



Early intervention programme (EIP) is strongly advocated

* M-CHAT may be used to screen children up until 30 months of age if the child misses the earlier screening

**Regardless of the screening result, children suspected of ASD by the family or other care provider should be referred for evaluation

***Multidisciplinary Assessment and Management Team may include:

- Family Medicine Specialist
- Paediatrician
- Psychiatrist
- Clinical Psychologist
- Occupational Therapist
- Speech-Language Therapist
- Audiologist
- Medical Social Worker